CLAIMS

1. A filter for liquids comprising one or more porous filters, wherein one or more filters have pores of a nominal diameter between 0.1 and 10 microns and the one or more porous filters each have surfaces that are substantially neutral in a selected fluid having a pH above about 4.

2. The filter of Claim 1 wherein the fluid is an aqueous fluid and the surface is substantially neutral over a preselected pH range.

3. The filter of Claim 1 wherein the one or more filters have a Zeta Potential of between about 10 and -10 millivolts in a selected fluid.

4. The filter of Claim 1 wherein the one or more filters have a Zeta Potential of between about 5 and -5 millivolts in a selected fluid.

5. A system for filtering fluids comprising a fluid and one or more filters wherein the one or more filters having pores of a nominal diameter between 0.1 and 10 microns and the one or more porous filters each having surfaces that are substantially neutral in a selected fluid having a pH above about 4.

6. The system of Claim 5 wherein the fluid is selected from the group consisting of aqueous fluids, non-aqueous fluids and blends thereof and the one or more filters have a Zeta Potential of between about 5 and -5 millivolts in the selected fluid.

7. The filter of Claim 1 wherein the one or more filters have a log reduction value (LRV) of at least 3 of particles in the selected fluid.

8. The filter of Claim 1 wherein the one or more filters have a log reduction value (LRV) of from about 3 to about 20 of particles in the selected fluid.

9. The filter of Claim 1 wherein the one or more filters have a Zeta Potential of between about 10 and -10 millivolts in the selected fluid and a log reduction value (LRV) of at least 3 of the particles in the selected fluid.

10. The filter of Claim 1 wherein the one or more fluids have a a Zeta Potential of between about 5 and -5 millivolts in the selected fluid and a log reduction value (LRV) of at least 3 of the particles in the selected fluid.

11. A method of filtration of liquids comprising selecting a fluid having a pH about 4 and containing one or more contaminants to be removed, forming one or more porous filters, said one or more filters having pores of a nominal diameter between 0.1 and 10 microns and the one or more porous filters having surfaces which are substantially neutral within the selected fluid and passing the fluid through the one or more filters to remove the contaminants.

12. The filter of Claim 1 wherein the substantially neutral surface is inherent in the nature of the one or more filters.

13. The filter of Claim 1 wherein the substantially neutral surface is formed by surface modification of the one or more filters.

14. The filter of Claim 1 wherein the substantially neutral surface is modification of the filter and the surface modification is selected from the group consisting of cross linking and grafting of one or more monomers on surfaces of the one or more filters.

15. The filter of Claim 1 wherein the substantially neutral surface is formed by surface modification of the filter and the surface modification is by application of an energy source on surfaces of the one or more filters.

16. The filter of Claim 1 wherein the one or more filters are made from a material selected from the group consisting of cellulose, glass, ceramics and metals.

17. The filter of Claim 1 wherein the one or more filters are made from a material selected from the group consisting of cellulose, regenerated cellulose and nitrocellulose.

18. The filter of Claim 1 wherein the one or more filters are made from a meta; selected from the group consisting of stainless steel, nickel, chromium and alloys and blends thereof.

19. The filter of Claim 1 wherein the one or more filters are made from a plastic selected from the group consisting of polyolefins; copolymers or terpolymers of polyolefins; PVDF; PTFE resin; PFA; perfluorinated thermoplastic resins; PVD; nylons; polyamides; polysuflphones; polyethersulphones; polarylsulphones; polyphenylsulphones; polyimides; polycarbonates; polyesters; and blends thereof.

20. The filter of Claim 1 wherein the one or more filters are made from a polyolefin selected from the group consisting of polyethylene, and polypropylene.

21. The filter of Claim 1 wherein the one or more filters are made from an ultrahigh molecular weight polyethylene.

22. A filter comprising one or more filters each having pores of a minimal diameter between 0.1 and 10 microns and the one or more porous filters having a

surface having an IEP within a selected operating range of pH above about 4 such that the filter surface either maintains a neutral or weak charge or does not acquire a highly charged surface within the selected pH range.

24. A filter of claim 23 comprising two or more filters in a composite filter, each with a different IEP.

25. The filter of Claim 1 or 31 wherein the surface of the one or more filters is treated with one or more monomers selected from the group consisting of acrylate or acrylamide monomers and methacrylate and blends thereof.

26. The filter of Claim 1 or 31 wherein the surface of the one or more filters is treated with acrylic acid.

27. The filter of Claim 1 or 31 wherein the surface of the one or more filters is treated with acrylic acid, a photoinitiator and a cross linker.

28. The filter of Claim 1 or 31 wherein the surface of the one or more filters is treated with acrylic acid, a photoinitiator and a cross linker, wherein the cross linker is N, N'-methylenebisacrylamide.

29. The filter of Claim 1 or 31 wherein the surface of the one or more filters is treated with N, N'-methylenebisacrylamide.

30. The filter of Claim 1 or 31 wherein the one or more filters have a kig reduction value (LRV) of at least 3 of particles of an average diameter that is smaller than the nominal pore size of the filter in the selected fluid.

31. The filter of Claim 1 wherein one or more porous filters have a nominal diameter between 0.1 and 1 micron.

32. (New Claim) The process of providing a porous filter for filtering a fluid which comprises:

(a) measuring a Zeta Potential of one or more measured filters in said fluid wherein said measured filter has a nominal pore diameter between 0.1 and 10 microns and

(b) filtering said fluid with one of said one or more measured filters having a Zeta Potential between about 10 and -10 millivolts in the fluid.

33. (New Claim) The process of Claim 32 wherein the fluid is an aqueous fluid and the surface is substantially neutral over a preselected pH range.

34. (New Claim) The process of Claim 32 wherein the one or more filters have a Zeta Potential of between about 5 and -5 millivolts in a selected fluid.

35. (New Claim) The process of Claim 32 wherein the one or more filters have a log reduction value (LRV) of at least 3 of particles in the selected fluid.

36. (New Claim) The process of Claim 32 wherein the the one or more filters have a log reduction value (LRV) of from about 3 to about 20 of paraticles in the selected fluid.

37. (New Claim) The process of Claim 32 wherein the one or more filters have a Zeta Potential of between about 10 and -10 millivolts in the selected fluid and a log reduction value (LRV) of at least 3 of the particles in the selected fluid.

38. (New Claim) The process of Claim 32 wherein the one or more fluids have a a Zeta Potential of between about 5 and -5 millivolts in the selected fluid and a log reduction value (LRV) of at least 3 of the particles in the selected fluid.

39. (New Claim) The process of Claim 32 wherein the substantially neutral surface is inherent in the nature of the one or more filters.

40. (New Claim) The process of Claim 32 wherein the substantially neutral surface is formed by surface modification of the one or more filters.

41. (New Claim) The process of Claim 32 wherein the substantially neutral surface is modification of the filter and the surface modification is selected from the group consisting of cross linking and grafting of one or more monomers on surfaces of the one or more filters.

42. (New Claim) The process of Claim 32 wherein the substantially neutral surface is formed by surface modification of the filter and the surface modification is by application of an energy source on surfaces of the one or more filters.

43. (New Claim) The process of Claim 32 wherein the one or more filters are made from a material selected from the group consisting of cellulose, glass, ceramics and metals.

44. (New Claim) The process of Claim 32 wherein the one or more filters are made from a material selected from the group consisting of cellulose, regenerated cellulose and nitrocellulose.

45. (New Claim) The process of Claim 32 wherein the one or more filters are made from a meta; selected from the group consisting of stainless steel, nickel, chromium and alloys and blends thereof.

46. (New Claim) The process of Claim 32 wherein the one or more filters are made from a plastic selected from the group consisting of polyolefins; copolymers or terpolymers of polyolefins; PVDF; PTFE resin; PFA; perfluorinated thermoplastic resins; PVD; nylons; polyamides; polysuflphones;

polyethersulphones; polarylsulphones; polyphenylsulphones; polyimides; polycarbonates; polyesters; and blends thereof.

47. (New Claim) The process of Claim 32 wherein the one or more filters are made from a polyolefin selected from the group consisting of polyethylene, polypropylene and the like.

48. (New Claim) The process of Claim 32 wherein the one or more filters are made from an ultrahigh molecular weight polyethylene.

49. (New Claim) The process of Claim 32 utilizing one or more filters each having pores of a nominal diameter between 0.1 and 10 microns and the one or more porous filters having_ a surface having an IEP within a selected operating range of pH above about 4 such that the filter surface either maintains a neutral or weak charge or does not acquire a highly charged surface within the selected pH range.

50. (New Claim) The process of Claim 32 utilizing one or more filters each having pores of a nominal diameter between 0.1 and 10 microns and the one or more porous filters having_ a surface having an IEP that matches the pH of the liquid having a pH above about 4 in which it is used.

51. (New Claim) The process of Claim 30 utilizing two or more filters in a composite filter, each with a different IEP.

52. (New Claim) The process of Claim 32 wherein the surface of the one or more filters is treated with one or more monomers selected from the group consisting of acrylate or acrylamide monomers and methacrylate or acrylamide monomers and blends thereof.

53. (New Claim) The process of Claim 32 wherein the surface of the one or more filters is treated with acrylic acid.

54. (New Claim) The process of Claim 32 wherein the surface of the one or more filters is treated with acrylic acid, a photoinitiator and a cross linker.

55. (New Claim) The process of Claim 32 wherein the surface of the one or more filters is treated with acrylic acid, a photoinitiator and a cross linker, wherein the cross linker is N, N'-methylenebisacrylamide.

56. (New Claim) The process of Claim 32 wherein the surface of the one or more filters is treated with N, N'-methylenebisacrylamide.

57. (New Claim) The process of Claim 32 wherein the one or more filters have a log reduction value (LRV) of at least 3 of particles of an average diameter that is smaller than the nominal pore size of the filter in the selected fluid.